Space Weather Highlights **SWPC PRF 2540**
29 April - 05 May 2024 **06 May 2024**

Solar activity was at moderate to high levels. Moderate levels were observed on 29 Apr and 01-02 May. High levels were reached on 30 Apr, due in part to an M9.5/2b flare at 30/2346 UTC from Region 3654 (S07, L=134, class/area Fkc/550 on 30 Apr). Region 3654 was the largest and most complex spot group on 28 Apr-01 May, however it was in decay as it approached the SW limb on 01 May. The region produced a total of 11 M-class flares. On 30 Apr, Region 3663 (N26, L=037, class/area Fkc/580 on 05 May) emerged in the NE quadrant, followed by Region 3664 (S19, L=352, class/area Ekc/580 on 05 May) on 01 May. Both regions grew steadily over the following days. Region 3663 produced 17 M-class flares and 3 X-class flares while Region 3664 produced only 5 M-class flares. The three X-class flares included an X1.6/1b at 03/0222 UTC, an X1.3/1b at 05/0601 UTC, and an X1.2/1b at 05/1154 UTC. The X1.6 flare had associated Type II (959 km/s) and IV radio sweeps, a 550 sfu Tenflare and an associated CME first observed in SOHO/LASCO C2 imagery at 03/0248 UTC. Modelling of the event showed a potential glancing blow arriving around 05/1800 UTC. There were two further CME runs of note. Those included an eruption near N13W09 at 29/0909 UTC that displayed a westward flow across GOES 16 SUVI imagery. C2 imagery showed a CME off the NW limb at 29/1248 UTC that was modelled as a potential glancing blow on 03 May around 1500 UTC. Lastly, a CME that was associated with a C3.9 flare at 03/2037 UTC from a plage area in the NE quadrant. The flare had associated Type II (392 km/s) and Type IV radio emissions and a CME first observed in C3 imagery at 03/2218 UTC. Analysis showed a potential glancing blow on 09 May. Other eruptive events associated with radio signatures were observed, but did not produce ejecta determined to be on the Sun-Earth line.

No proton events were observed at geosynchronous orbit.

The greater than 2 MeV electron flux at geosynchronous orbit was at normal to moderate levels throughout.

Solar wind parameters began the period under mild positive polarity CH HSS influence solar wind speed was mostly in the 450-500 km/s range and total field around 2-4 nT. Solar wind speed began to diminish to nominal levels on 30 Apr. After 30/1130 UTC, the first of three CMEs were observed. Total field increased to near 14 nT while the Bz component rotated from -9 nT to +13 nT. Solar wind speed continued to decrease to near 350 km/s. The geomagnetic field responded with quiet levels on 29 Apr, followed by quiet to active levels on 30 Apr-01 May. On 02 May, a shock arrival was observed at 02/1317 UTC, indicating the arrival of the second CME. This CME was possibly the one that left the Sun on 29 Apr. The IMF increased to approximately 21 nT and the Bz component shifted southward to -19 nT. Solar wind speed increased initially to near 450 km/s and later to near 510 km/s on 03 May. The geomagnetic field responded with unsettled to G3 (Strong) storm levels on 02 May and quiet to active levels on 03 May. By early on 03 May, the IMF had decreased to nominal levels with solar wind speed slowly returning to background conditions. Nominal conditions returned on 04 May and through the midday on 05 May. Around 05/1500 UTC, another enhancement was observed in the IMF,

likely the arrival of the 03 May CME. Total field strength increased gradually to 14 nT while the Bz component reached a southward deflection of -12 nT. Solar wind speed increased to near 380 km/s. The geomagnetic field responded with unsettled to active levels late on 05 May.

Space Weather Outlook
06 May - 01 June 2024

Solar activity is expected to be at moderate to high levels (R1-R3/Minor-Strong) through 12 May as Regions 3663 and 3664 rotate across the visible disk. Low to moderate levels are expected on 12 May-01 Jun.

There is a chance for S1-S2 (Minor-Moderate) solar radiation storm levels on 06-13 May due to the flare potential of Regions 3663 and 3664.

The greater than 2 MeV electron flux at geosynchronous orbit is expected to be at normal to moderate levels on 06 May-01 Jun.

Geomagnetic field activity is expected to be at unsettled to G2 (Moderate) storm levels on 06 May due to persistent CME influence. The geomagnetic field is expected to reach unsettled to active levels on 07-09 May, 12-14 May, 23-25 May, 27-28 May, and 31 May-01 Jun due to recurrent CH HSS activity.

Daily Solar Data

Date	Radio Flux 10.7cm	Sun spot No.	Sunspot Area (10^{-6} hemi.)	X-ray Background Flux	Flares							
					X-ray			Optical				
					C	M	X	S	1	2	3	4
29 April	138	88	650	C1.2	7	2	0	4	2	0	0	0
30 April	130	85	670	B9.4	3	4	0	9	0	1	0	0
01 May	135	104	640	B9.0	6	2	0	8	1	0	0	0
02 May	142	125	760	C1.1	12	2	0	29	1	0	0	0
03 May	156	121	1000	C1.6	10	5	1	30	4	0	0	0
04 May	167	136	1210	C2.3	14	6	0	21	4	0	0	0
05 May	177	152	1540	C2.7	10	9	2	22	8	2	0	0

Daily Particle Data

Date	Proton Fluence (protons/cm ^{2} -day -sr)		Electron Fluence (electrons/cm^2 -day -sr)
	>1 MeV	>10 MeV	>2MeV
29 April	7.9e+05	1.8e+04	6.2e+06
30 April	5.2e+05	1.8e+04	9.7e+06
01 May	1.6e+05	1.8e+04	1.2e+06
02 May	3.4e+06	1.8e+04	1.2e+06
03 May	9.3e+05	1.8e+04	1.1e+06
04 May	7.8e+05	1.8e+04	1.3e+06
05 May	1.1e+06	1.8e+04	2.1e+06

Daily Geomagnetic Data

Date	Middle Latitude Fredericksburg		High Latitude College		Estimated Planetary	
	A	K-indices	A	K-indices	A	K-indices
29 April	7	1-1-2-2-2-2-3-2	7	2-1-2-3-3-1-2-0	6	2-1-2-1-1-1-2-1
30 April	10	2-2-1-1-3-2-2-4	7	1-2-0-0-2-3-2-3	12	2-2-1-1-3-3-4-4
01 May	10	3-3-2-1-2-2-3-2	6	3-2-2-0-1-1-2-1	8	4-2-2-1-1-1-3-2
02 May	24	2-2-3-3-5-5-4-4	61	2-2-3-6-6-7-7-3	44	3-2-3-3-5-7-7-4
03 May	16	3-2-1-1-2-1-6-2	10	4-3-2-3-1-0-2-1	10	4-3-1-2-1-1-2-2
04 May	5	2-1-0-2-2-1-1-2	3	1-1-0-0-2-0-0-2	6	1-1-1-1-1-1-1-3
05 May	12	2-1-3-3-3-2-3-3	11	2-1-2-5-0-0-2-3	7	2-1-2-2-2-2-3-4

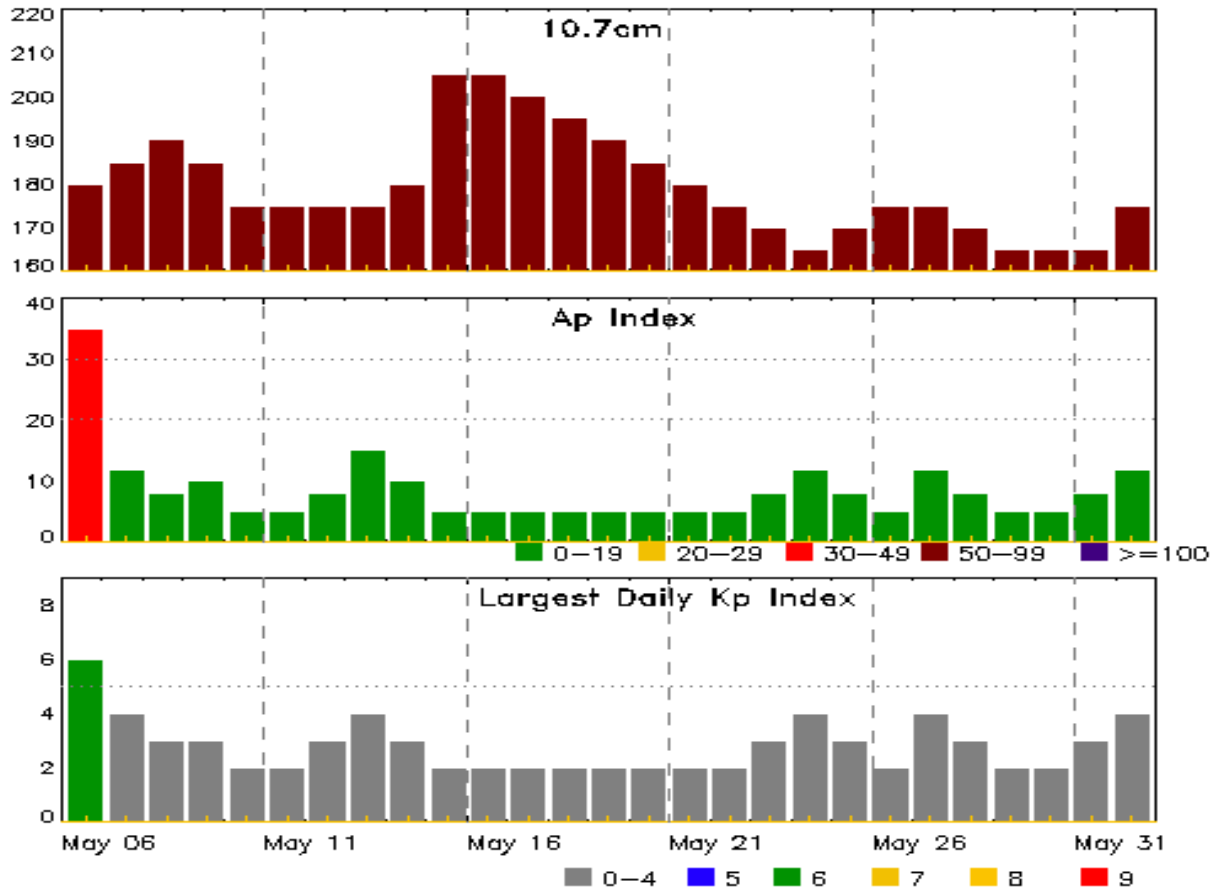
Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
30 Apr 1642	WARNING: Geomagnetic K = 4	30/1642 - 2359
30 Apr 2243	WARNING: Geomagnetic K = 4	30/2242 - 01/0300
30 Apr 2316	ALERT: Geomagnetic K = 4	
30 Apr 2333	WARNING: Geomagnetic K = 5	30/2332 - 01/0300
30 Apr 2349	ALERT: X-ray Flux exceeded M5	30/2343
30 Apr 2355	SUMMARY: 10cm Radio Burst	30/2342 - 2345
01 May 0004	SUMMARY: X-ray Event exceeded M5	30/2323 - 2358
01 May 0226	EXTENDED WARNING: Geomagnetic K = 4	30/2242 - 01/0900
02 May 1329	WARNING: Geomagnetic Sudden Impulse expected	02/1404 - 1434
02 May 1332	WARNING: Geomagnetic K = 4	02/1335 - 03/0600
02 May 1351	WARNING: Geomagnetic K = 5	02/1355 - 2100
02 May 1422	SUMMARY: Geomagnetic Sudden Impulse	02/1412
02 May 1422	ALERT: Geomagnetic K = 4	
02 May 1450	ALERT: Geomagnetic K = 5	
02 May 1450	WARNING: Geomagnetic K = 6	02/1450 - 2100
02 May 1605	ALERT: Geomagnetic K = 5	
02 May 1624	ALERT: Geomagnetic K = 6	
02 May 1639	WARNING: Geomagnetic K>= 7	02/1640 - 2100
02 May 1803	ALERT: Geomagnetic K = 7	
02 May 1904	ALERT: Geomagnetic K = 5	
02 May 1917	ALERT: Geomagnetic K = 6	
02 May 2056	EXTENDED WARNING: Geomagnetic K>= 7	02/1640 - 03/0300
02 May 2056	EXTENDED WARNING: Geomagnetic K = 5	02/1355 - 03/1200
02 May 2056	EXTENDED WARNING: Geomagnetic K = 6	02/1450 - 03/0900
02 May 2056	EXTENDED WARNING: Geomagnetic K = 4	02/1335 - 03/1500
02 May 2100	ALERT: Geomagnetic K = 7	
03 May 0222	ALERT: X-ray Flux exceeded M5	03/0219
03 May 0236	ALERT: Type II Radio Emission	03/0220
03 May 0238	SUMMARY: X-ray Event exceeded X1	03/0211 - 0227

Alerts and Warnings Issued

Date & Time of Issue UTC	Type of Alert or Warning	Date & Time of Event UTC
03 May 0239	SUMMARY: 10cm Radio Burst	03/0219 - 0223
03 May 0251	ALERT: Type IV Radio Emission	03/0232
03 May 2059	WATCH: Geomagnetic Storm Category G2 predicted	
03 May 2102	ALERT: Type II Radio Emission	03/2023
03 May 2359	ALERT: Type IV Radio Emission	03/2035
04 May 0618	ALERT: X-ray Flux exceeded M5	04/0616
04 May 0638	SUMMARY: 10cm Radio Burst	04/0613 - 0616
04 May 0642	SUMMARY: X-ray Event exceeded M5	04/0602 - 0630
04 May 0655	ALERT: Type II Radio Emission	04/0625
04 May 0656	ALERT: Type IV Radio Emission	04/0638
04 May 2342	ALERT: X-ray Flux exceeded M5	04/2339
05 May 0011	SUMMARY: X-ray Event exceeded M5	04/2328 - 2355
05 May 0125	ALERT: X-ray Flux exceeded M5	05/0123
05 May 0153	SUMMARY: X-ray Event exceeded M5	05/0115 - 0143
05 May 0320	SUMMARY: 10cm Radio Burst	05/0259 - 0301
05 May 0601	ALERT: X-ray Flux exceeded M5	05/0558
05 May 0620	SUMMARY: X-ray Event exceeded X1	05/0547 - 0607
05 May 0959	ALERT: X-ray Flux exceeded M5	05/0957
05 May 1038	SUMMARY: X-ray Event exceeded M5	05/0953 - 1019
05 May 1152	ALERT: X-ray Flux exceeded M5	05/1150
05 May 1232	SUMMARY: X-ray Event exceeded X1	05/1141 - 1243
05 May 1932	WARNING: Geomagnetic K = 4	05/1930 - 06/1200
05 May 2333	ALERT: Geomagnetic K = 4	
05 May 2336	WARNING: Geomagnetic K = 5	05/2335 - 06/0900

Twenty-seven Day Outlook



Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index	Date	Radio Flux 10.7cm	Planetary A Index	Largest Kp Index
06 May	180	35	6	20 May	185	5	2
07	185	12	4	21	180	5	2
08	190	8	3	22	175	5	2
09	185	10	3	23	170	8	3
10	175	5	2	24	165	12	4
11	175	5	2	25	170	8	3
12	175	8	3	26	175	5	2
13	175	15	4	27	175	12	4
14	180	10	3	28	170	8	3
15	205	5	2	29	165	5	2
16	205	5	2	30	165	5	2
17	200	5	2	31	165	8	3
18	195	5	2	01 Jun	175	12	4
19	190	5	2				

Energetic Events

	Time			X-ray		Optical Information			Peak Radio Flux		Sweep Freq Intensity	
Date	Begin	Max	Half Max	Class	Integ Flux	Imp/ Brtns	Location Lat CMD	Rgn #	245	2695	II	IV
29 Apr	0033	0048	0054	M2.5	0.007	1N	S08W40	3654				
29 Apr	0054	0111	0120	M3.7	0.046			3654				
30 Apr	0046	0114	0131	M1.6	0.026	SF	S06W50	3654				
30 Apr	1450	1511	1526	M1.2	0.015	SF	S05W60	3654				
30 Apr	1611	1633	1647	M1.3	0.018	SF	S05W60	3654	100			
30 Apr	2323	2346	2358	M9.5	0.069	2B	S05W63	3654		270		
01 May	1417	1432	1437	M1.8	0.017	SN	S05W75	3654		120		
01 May	2226	2231	2237	M1.8	0.001	SN	N25E24	3663	670			
02 May	0207	0217	0224	M1.0	0.006	1N	N25E23	3663				
02 May	2052	2057	2101	M2.7	0.007			3664	1500			
03 May	0008	0015	0019	M2.7	0.006	1N	S21E59	3664	210			
03 May	0211	0222	0227	X1.6	0.060	1B	N25E07	3663	10000	550	2	1
03 May	0805	0811	0816	M4.4	0.017	SB	N24E05	3663				
03 May	2225	2247	2311	M1.2	0.003			3654				
03 May	2311	2316	2320	M1.0	0.003			3663	6700			
03 May	2324	2330	2336	M2.4	0.014	SN	N26W06	3663	3500	100		
04 May	0026	0036	0044	M1.6	0.012	SF	N26W06	3663	120			
04 May	0602	0619	0630	M9.1	0.070	1B	N26W08	3663	590	270	1	1
04 May	0704	0707	0711	M1.5	0.001			3663				
04 May	1810	1820	1825	M1.3	0.007			3663	150			
04 May	2223	2237	2254	M3.2	0.034			3663				
04 May	2328	2348	2355	M9.0	0.078	1B	N26W10	3663				
05 May	0115	0127	0143	M8.4	0.082	1B	N26W10	3663	340	71		
05 May	0547	0601	0607	X1.3	0.063	1B	N26W10	3663	5200	120		
05 May	0807	0819	0824	M1.3	0.003	SF	N27W21	3663				
05 May	0923	0938	0953	M2.3	0.006	SN	S20E22	3664	190			
05 May	0953	1000	1019	M7.4	0.088	1B	N26W21	3663				
05 May	1141	1154	1216	X1.2	0.170	1B	N26W22	3663				
05 May	1433	1447	1456	M1.3	0.014	SF	N25W25	3663				
05 May	1528	1538	1551	M2.2	0.024	2N	N24W26	3663				
05 May	1655	1701	1706	M1.3	0.008	1F	S19E25	3664				
05 May	1834	1840	1845	M1.0	0.006	SF	S19E25	3664				
05 May	1944	1952	2006	M1.3	0.013	2N	N24W28	3663				

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
29 Apr	0033	0048	0054	M2.5	1N	S08W40	3654
29 Apr	0054	0111	0120	M3.7			3654
29 Apr	0623	0631	0638	C3.0	SF	S09W42	3654
29 Apr	0727	0736	0810	C3.4			3661
29 Apr	1319	1327	1335	C2.8	SF	S09W46	3654
29 Apr	1647	1650	1651		SF	S10W43	3654
29 Apr	1859	1901	1904		SF	S08W43	3654
29 Apr	1914	1926	1935	C8.5	1N	S06W48	3654
29 Apr	2115	2121	2126	C1.6			3654
29 Apr	2304	2312	2319	C1.6			3654
29 Apr	2319	2324	2328	C1.4			3654
30 Apr	0015	0015	0018		SF	S06W49	3654
30 Apr	0046	0114	0131	M1.6	SF	S06W50	3654
30 Apr	0705	0713	0720	C1.4			
30 Apr	0937	0937	0941		SF	N23E63	3661
30 Apr	0950	1004	1017	C2.0	SF	S06W52	3654
30 Apr	1236	1255	1321	C1.8			3654
30 Apr	1450	1511	1526	M1.2	SF	S05W60	3654
30 Apr	1611	1633	1647	M1.3	SF	S05W60	3654
30 Apr	2003	2007	2009		SF	S05W62	3654
30 Apr	2010	2015	2017		SF	S06W63	3654
30 Apr	2127	2127	2132		SF	N27E39	3663
30 Apr	2323	2346	2358	M9.5			3654
30 Apr	2328	2332	2347		SF	N23E55	3661
30 Apr	2333	2344	A2359		2B	S05W63	3654
01 May	0558	0758	0841	C5.8			3654
01 May	1049	1056	1104	C1.7			3663
01 May	1417	1432	1437	M1.8	SN	S05W75	3654
01 May	1517	1518	1527		SF	N24E27	3663
01 May	1658	1659	1704		SF	N24E26	3663
01 May	1701	1711	1718	C3.7	SF	N24E26	3663
01 May	1747	1750	1800		SF	N25E25	3663
01 May	1801	1813	1848		SF	N25E25	3663
01 May	1814	1817	1822	C1.9			3663
01 May	1947	1950	1958		SF	N26E24	3663
01 May	2000	2006	2011	C1.9	1F	N25E24	3663
01 May	2226	2231	2237	M1.8	SN	N25E24	3663
01 May	2357	0004	0015	C1.2	SF	N26E25	3663

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
02 May	0104	0107	0110		SF	N24E22	3663
02 May	0123	0130	0141	C1.6	SF	S16E76	3664
02 May	0207	0217	0224	M1.0	1N	N25E23	3663
02 May	0241	0242	0251		SF	S16E76	3664
02 May	0337	0338	0346		SF	N25E23	3663
02 May	0358	0359	0400		SF	N24E22	3663
02 May	0506	0506	0510		SF	N24E22	3663
02 May	0558	0602	0637		SF	N25E20	3663
02 May	0639	0640	0641		SF	N25E20	3663
02 May	0646	0647	0650		SF	N25E20	3663
02 May	0656	0702	0705		SF	N25E20	3663
02 May	0747	0748	0750		SF	N26E16	3663
02 May	0754	0755	0824		SF	N25E19	3663
02 May	0842	0858	0929	C2.7	SF	N24E18	3663
02 May	0912	0918	0922	C2.5			3654
02 May	0944	0951	0956	C4.3			3663
02 May	B1003	U1003	1005		SF	S18E63	3664
02 May	B1003	U1003	1012		SF	N26E16	3663
02 May	B1209	U1217	A1245		SF	N26E16	3663
02 May	1332	1354	1446	C3.6	SF	N24E14	3663
02 May	1618	1627	1631	C3.7	SF	S20E64	3664
02 May	1656	1700	1704	C6.3	SF	S22E63	3664
02 May	1722	1732	1736	C8.7	SF	S20E64	3664
02 May	1810	1816	1837		SF	N25E12	3663
02 May	1848	1856	1905	C4.0	SF	S20E64	3664
02 May	1913	1923	1926		SF	N26E12	3663
02 May	2042	2048	2052	C1.9			
02 May	2052	2057	2101	M2.7			3664
02 May	2108	2108	2113		SF	N24E11	3663
02 May	2111	2111	2117		SF	S19E61	3664
02 May	2207	2209	2217		SF	S19E56	3664
02 May	2306	2318	2322	C5.0	SF	S21E59	3664
02 May	2326	2329	2333	C3.6	SF	N23E11	3663
03 May	0008	0015	0019	M2.7	1N	S21E59	3664
03 May	0015	0016	0021		SF	N26E08	3663
03 May	0151	0159	0205	C2.6			3663
03 May	0205	0209	0211	C2.4			3663
03 May	0211	0222	0227	X1.6	1B	N25E07	3663

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
03 May	0317	0327	0337	C7.4			3654
03 May	0343	0343	0348		SF	S22E58	3664
03 May	0433	0441	0444		SF	N24E07	3663
03 May	0508	0518	0521	C6.0	SF	N24E06	3663
03 May	0521	0527	0533	C6.7	SN	N24E07	3663
03 May	0611	0611	0614		SF	S21E57	3664
03 May	0628	0629	0632		SF	N26E03	3663
03 May	0631	0635	0642	C5.3	SF	S22E53	3664
03 May	0719	0720	0721		SF	N29W18	3662
03 May	0805	0811	0816	M4.4	SB	N24E05	3663
03 May	1451	1454	1502		SF	N25W02	3663
03 May	1605	1613	1623	C8.0	SN	S22E47	3664
03 May	1610	1612	1614		SF	N25W01	3663
03 May	1630	1635	1658		SF	N26W01	3663
03 May	1712	1714	1720		SF	N27W00	3663
03 May	1750	1856	1923		1N	N25W05	3663
03 May	1823	1830	1836		SF	S18E44	3664
03 May	1840	1855	1903	C7.5			3663
03 May	1848	1904	2014		SF	S21E43	3664
03 May	1944	1946	1947		SF	N25W05	3663
03 May	1953	1956	2001		SF	N26W04	3663
03 May	1954	2002	2008		SF	N07E18	3666
03 May	2012	2037	2050	C3.9			
03 May	2017	2022	2111		1F	N08E34	3666
03 May	2018	2055	2208		SF	S21E43	3664
03 May	2022	2028	2032		SF	N07E18	3666
03 May	2036	2050	2052		SF	N26W04	3663
03 May	2053	2056	2100	C4.6			3664
03 May	2057	2101	2104		SF	N26W04	3663
03 May	2157	2203	2205		SF	N26W04	3663
03 May	2201	2202	2210		SF	N22E15	3661
03 May	2209	2258	2310		SF	S22E43	3664
03 May	2225	2247	2311	M1.2			3654
03 May	2236	2236	2245		SF	N26W06	3663
03 May	2311	2316	2320	M1.0			3663
03 May	2314	2329	2354		SN	N26W06	3663
03 May	2315	2323	2330		SF	S22E43	3664
03 May	2324	2330	2336	M2.4			3663

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
04 May	0003	0040	A0122		1F	S22E39	3664
04 May	0005	0006	0008		SF	S22E46	3664
04 May	0026	0036	0044	M1.6	SF	N26W06	3663
04 May	0037	0041	0049		SF	S22E46	3664
04 May	0130	0130	0133		SF	N25W05	3663
04 May	0216	0236	0252	C5.8			3664
04 May	0345	0354	0400	C5.5	SF	N25W05	3663
04 May	0511	0517	0525	C3.1	SF	N26W02	3663
04 May	0528	0532	0546		SF	S19E39	3664
04 May	0602	0619	0630	M9.1	1B	N26W08	3663
04 May	0650	0700	0704	C8.5			3663
04 May	0704	0707	0711	M1.5			3663
04 May	0750	0756	0800		SF	N26W09	3663
04 May	0831	0836	0843	C4.5	SF	N27W07	3663
04 May	0857	U0919	0927		SF	N27W11	3663
04 May	0932	U0959	A1005		SF	N27W11	3663
04 May	B1012	U1015	A1017		SF	N26W06	3663
04 May	B1029	U1040	1100		SF	N26W08	3663
04 May	1201	1205	1209	C4.2	SF	N26W10	3663
04 May	1249	U1302	1441		SF	N26W11	3663
04 May	1315	1604	1648		1F	N26W17	3663
04 May	1315	1808	1813		SF	S19E32	3664
04 May	1450	1500	1508	C3.8			3663
04 May	1450	1450	1456		SF	S17E33	3664
04 May	1457	1459	1513		SF	N25W12	3663
04 May	1557	1607	1622	C6.3	SF	N26W14	3663
04 May	1707	1719	1727	C9.1			3663
04 May	1746	1749	1756	C4.0			3663
04 May	1810	1820	1825	M1.3			3663
04 May	1907	1923	1936	C5.6			3663
04 May	1907	1907	1916		SF	S19E32	3664
04 May	1936	1943	1951	C6.0			3663
04 May	2033	2041	2049	C4.4			3663
04 May	2143	2156	2211	C4.7			3663
04 May	2223	2237	2254	M3.2			3663
04 May	2309	2309	A2359	M9.0	1B	N26W10	3663
04 May	2330	2330	2335		SF	S18E26	3664
05 May	B0000	0000	A0118		1N	N26W17	3663

Flare List

Date	Time			Optical			
	Begin	Max	End	X-ray Class	Imp/ Brtns	Location Lat CMD	Rgn #
05 May	B0000	0128	0233	M8.4	1B	N26W10	3663
05 May	0244	0247	0253		SF	N26W10	3663
05 May	0259	0301	0336	C8.8	SF	N26W10	3663
05 May	0420	0425	0430	C8.4	SF	N26W10	3663
05 May	0525	0542	0547	C5.5	SF	S18E26	3664
05 May	0533	0559	0703	X1.3	1B	N26W10	3663
05 May	0807	0819	0824	M1.3	SF	N27W21	3663
05 May	0848	0910	0922		SF	N26W10	3663
05 May	0855	0910	0926	C8.4	SF	N27W21	3663
05 May	0915	0915	0918		SF	S21E24	3664
05 May	0923	0938	0953	M2.3	SN	S20E22	3664
05 May	0950	0956	1056	M7.4	1B	N26W21	3663
05 May	1058	1108	1111		SF	N24W24	3663
05 May	1141	1154	1216	X1.2	1B	N26W22	3663
05 May	1312	1535	1807		2N	N24W26	3663
05 May	1333	1333	1342		SF	N25W26	3663
05 May	1412	1416	1426	C7.5	SF	S20E19	3664
05 May	1433	1447	1456	M1.3			3663
05 May	1437	1440	1513		SF	S20E19	3664
05 May	1440	1442	1507		SF	N25W25	3663
05 May	1458	1503	1521		SF	S22E19	3664
05 May	1510	1510	1512		SF	N27W23	3663
05 May	1513	1534	1601		1N	N26W25	3663
05 May	1523	1527	1537		SF	S22E15	3664
05 May	1528	1538	1551	M2.2			3663
05 May	1626	1700	1721	M1.3	1F	S19E25	3664
05 May	1800	1804	1808	C6.4			3664
05 May	1812	1819	1824	C8.7			3663
05 May	1812	1950	2201		2N	N24W28	3663
05 May	1834	1839	1904	M1.0	SF	S19E25	3664
05 May	1910	1911	1914		SF	S21E22	3664
05 May	1915	1916	1920		SF	S22E19	3664
05 May	1936	1945	2005		SF	S22E19	3664
05 May	1944	1952	2006	M1.3			3663
05 May	2216	2222	2224	C2.0			3663
05 May	2218	2229	2313	C6.1	1N	N24W30	3663
05 May	2325	2343	2358	C4.1	SF	N24W32	3663

Region Summary

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3644												
16 Apr	N12E72	183	80	4	Dso	2	B								
17 Apr	N12E60	184	80	4	Dso	2	B								
18 Apr	N12E49	182	120	5	Dso	2	B								
19 Apr	N13E37	181	120	5	Dso	2	B								
20 Apr	N13E23	182	140	5	Dso	2	B								
21 Apr	N13E10	181	150	6	Dso	2	B								
22 Apr	N14W04	182	150	7	Dao	3	B								
23 Apr	N13W18	183	80	7	Dao	6	B								
24 Apr	N13W21	180	60	6	Hsx	2	A								
25 Apr	N13W42	181	40	6	Hsx	2	A								
26 Apr	N13W57	182	40	6	Hsx	2	A								
27 Apr	N13W70	182	10	3	Bxo	2	B								
28 Apr	N13W83	182	10	2	Bxo	2	B								
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 182

			Region 3646												
17 Apr	N21E59	185	30	8	Cso	3	B								
18 Apr	N21E50	181	70	8	Cro	8	B								
19 Apr	N21E38	180	20	8	Bxo	5	B								
20 Apr	N21E28	177	10	2	Bxo	3	B				1				
21 Apr	N21E14	178	30	5	Cao	8	B				6				
22 Apr	N21W01	179	100	7	Cai	14	B		1		1	1			
23 Apr	N21W15	180	200	9	Dai	18	BG	1			3				
24 Apr	N21W20	179	230	10	Dai	12	B	1			3				
25 Apr	N21W40	179	130	10	Dao	9	B								
26 Apr	N21W53	178	90	10	Cao	5	B								
27 Apr	N22W61	173	30	2	Cao	2	B								
28 Apr	N22W74	173	10	1	Axx	1	A								
29 Apr	N22W88	174	plage												
								2	1	0	14	1	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 179

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
		Region 3651													
19 Apr	N13E25	192	10	2	Bxo	2	B								
20 Apr	N13E11	194	10	1	Axx	1	A								
21 Apr	N13W02	193	plage												
22 Apr	N15W17	195	plage												
23 Apr	N15W31	196	plage												
24 Apr	N15W45	197	plage												
25 Apr	N09W49	186	plage												
26 Apr	N09W63	187	plage												
27 Apr	N09W76	188	plage												
28 Apr	N09W90	189	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 193

		Region 3652													
21 Apr	N15E31	160	60	4	Cai	7	B								
22 Apr	N15E17	161	120	6	Dao	6	B				2				
23 Apr	N15E02	163	120	9	Dso	5	B				2				
24 Apr	N14W05	164	80	8	Cso	5	B				1				
25 Apr	N14W26	165	80	2	Hsx	1	A								
26 Apr	N14W42	167	70	2	Hsx	1	A								
27 Apr	N14W57	169	70	2	Hsx	1	A								
28 Apr	N14W70	169	50	2	Hsx	2	A								
29 Apr	N14W85	171	50	2	Hsx	1	A								
								0	0	0	5	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 163

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3653												
21 Apr	N03E60	132	10	1	Axx	1	A								
22 Apr	N02E45	133	10	1	Axx	1	A								
23 Apr	N02E30	135	plage												
24 Apr	N03E15	136	0		Axx	1	A								
25 Apr	N03W00	139	plage												
26 Apr	N03W15	140	plage												
27 Apr	N03W30	142	plage												
28 Apr	N03W45	144	plage												
29 Apr	N03W60	146	plage												
30 Apr	N03W75	148	plage												
01 May	N03W90	149	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 139

			Region 3654												
21 Apr	S07E60	132	10	2	Bxo	3	B								
22 Apr	S09E45	133	20	1	Cro	2	B								
23 Apr	S08E31	134	160	8	Dai	13	B	1	2		3	2			
24 Apr	S08E25	134	130	11	Eac	18	B	1							
25 Apr	S08E06	133	210	11	Eai	12	BG				1				
26 Apr	S08W08	133	160	12	Eai	19	BG				3				
27 Apr	S08W23	135	230	13	Esi	18	BG	1	2		5				
28 Apr	S07W36	135	310	15	Ekc	25	BGD	6			11				
29 Apr	S07W50	136	480	15	Ekc	20	BGD	6	2		4	2			
30 Apr	S07W63	134	550	16	Fkc	20	BD	2	4		6		1		
01 May	S07W76	135	400	17	Fkc	18	BD	1	1		1				
02 May	S07W90	136	240	11	Eai	6	B	1							
								19	11	0	34	4	1	0	0

Crossed West Limb.
Absolute heliographic longitude: 133

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3655												
21 Apr	S27E62	130	20	3	Cro	3	B	1			1				
22 Apr	S28E50	127	30	7	Cro	6	B				4				
23 Apr	S28E36	129	130	8	Dao	4	B								
24 Apr	S28E30	129	120	11	Eso	5	B								
25 Apr	S27E11	128	100	9	Dso	4	B								
26 Apr	S27W03	128	60	9	Hsx	1	A								
27 Apr	S26W20	132	60	2	Hax	1	A								
28 Apr	S26W33	132	60	2	Hsx	1	A								
29 Apr	S26W47	133	60	1	Hsx	1	A								
30 Apr	S26W58	130	40	2	Hsx	1	A								
01 May	S27W71	130	30	2	Hsx	1	A								
02 May	S26W83	129	20	1	Hrx	1	A								
								1	0	0	5	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 128

			Region 3656												
21 Apr	S12E72	120	20	2	Hsx	1	A								
22 Apr	S12E60	118	10	1	Bxo	2	B		2		3				
23 Apr	S12E46	119	10	1	Cro	3	B								
24 Apr	S12E42	117	20	3	Cro	5	B								
25 Apr	S12E20	119	10	1	Axx	1	A								
26 Apr	S12E07	118	10	1	Axx	1	A								
27 Apr	S12W07	119	plage												
28 Apr	S12W21	120	plage												
29 Apr	S12W35	121	plage												
30 Apr	S12W49	122	plage												
01 May	S12W63	122	plage												
02 May	S12W77	123	plage												
								0	2	0	3	0	0	0	0

Died on Disk.
Absolute heliographic longitude: 118

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3657												
22 Apr	S11E31	146	10	3	Bxo	2	B								
23 Apr	S12E17	147	10	2	Bxo	1	B								
24 Apr	S12E10	149	20	7	Cro	7	B								
25 Apr	S13W05	144	30	7	Bxo	3	B				1				
26 Apr	S15W19	144	10	2	Bxo	3	B				1				
27 Apr	S15W32	144	10	2	Bxo	3	B								
28 Apr	S14W46	145	10	1	Axx	1	A								
29 Apr	S14W60	146	plage												
30 Apr	S14W74	147	plage												
01 May	S14W88	147	plage												
								0	0	0	2	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 144

			Region 3658												
24 Apr	S21W32	183	10	2	Bxo	2	B								
25 Apr	S21W47	186	20	3	Cro	3	B								
26 Apr	S23W60	185	60	6	Dro	4	B								
27 Apr	S23W71	183	50	6	Cro	6	B				2				
28 Apr	S22W84	183	50	3	Cao	4	B	1			1				
								1	0	0	3	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 183

			Region 3659												
25 Apr	S13E34	105	10	1	Axx	1	A								
26 Apr	S13E20	105	10	1	Axx	1	A								
27 Apr	S13E06	106	plage												
28 Apr	S13W08	107	plage												
29 Apr	S13W22	108	plage												
30 Apr	S13W36	109	plage												
01 May	S13W50	109	plage												
02 May	S13W64	110	plage												
03 May	S13W78	111	plage												
								0	0	0	0	0	0	0	0

Crossed West Limb.
Absolute heliographic longitude: 106

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3660												
27 Apr	N10E62	50	30	1	Hsx	1	A								
28 Apr	N10E50	49	10	3	Bxo	3	B				1				
29 Apr	N11E37	49	10	2	Hrx	2	A								
30 Apr	N11E23	50	plage												
01 May	N11E09	50	plage												
02 May	N11W05	51	plage												
03 May	N11W19	52	plage												
04 May	N11W33	53	plage												
05 May	N11W47	54	plage												
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 51

			Region 3661												
29 Apr	N24E62	24	30	3	Hsx	1	A	1							
30 Apr	N24E50	22	40	2	Hsx	1	A				2				
01 May	N24E39	20	40	2	Hsx	1	A								
02 May	N22E27	19	50	9	Cso	5	B								
03 May	N23E15	18	50	9	Cso	2	B				1				
04 May	N23W01	21	50	1	Hsx	1	A								
05 May	N23W15	21	40	1	Hsx	1	A								
								1	0	0	3	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 21

			Region 3662												
29 Apr	N30E39	47	20	1	Cro	3	B								
30 Apr	N30E10	63	30	6	Cro	6	B								
01 May	N30W01	60	70	8	Dao	10	B								
02 May	N30W15	61	90	9	Dao	11	B								
03 May	N30W28	61	100	10	Dao	4	B				1				
04 May	N29W40	60	50	10	Cso	3	B								
05 May	N29W59	65	30	2	Hsx	1	A								
								0	0	0	1	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 60

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3663												
30 Apr	N25E34	38	10	6	Bxo	7	B				1				
01 May	N26E25	35	60	5	Dso	9	BG	5	1		7	1			
02 May	N26E10	36	230	10	Dac	18	BD	4	1		19	1			
03 May	N26W03	36	480	12	Ekc	28	BGD	5	3	1	17	2			
04 May	N26W16	36	580	13	Ekc	30	BGD	13	6		14	3			
05 May	N26W31	37	580	16	Fkc	27	BGD	7	6	2	11	7	2		
								34	17	3	69	14	2	0	0

Still on Disk.
Absolute heliographic longitude: 36

			Region 3664												
01 May	S18E64	355	40	4	Dao	5	B								
02 May	S18E52	354	120	8	Dai	13	B	6	1		10				
03 May	S18E41	352	240	11	Eai	16	BG	3	1		9	1			
04 May	S19E28	352	310	11	Ekc	20	BD	1			7	1			
05 May	S19E14	352	580	11	Ekc	20	BD	3	3		11	1			
								13	5	0	37	3	0	0	0

Still on Disk.
Absolute heliographic longitude: 352

			Region 3665												
02 May	S05E71	335	10	1	Axx	1	A								
03 May	S05E57	336	10	1	Hrx	1	A								
04 May	S05E44	336	10	1	Hrx	1	A								
05 May	S05E30	336	10	1	Axx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 336

			Region 3666												
03 May	N07E16	17	120	6	Cai	10	B				2	1			
04 May	N07E02	18	130	6	Cai	10	B								
05 May	N07W13	19	120	8	Cso	4	B								
								0	0	0	2	1	0	0	0

Still on Disk.
Absolute heliographic longitude: 18

Region Summary - continued

	Location		Sunspot Characteristics					Flares							
		Helio	Area	Extent	Spot	Spot	Mag	X-ray			Optical				
Date	Lat CMD	Lon	10^{-6} hemi.	(helio)	Class	Count	Class	C	M	X	S	1	2	3	4
			Region 3667												
04 May	N28E73	307	80	3	Hsx	1	A								
05 May	N27E59	307	130	3	Hsx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 307

			Region 3668												
05 May	S17E29	337	40	4	Cao	6	B								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 337

			Region 3669												
05 May	S08E43	323	10	1	Hrx	1	A								
								0	0	0	0	0	0	0	0

Still on Disk.
Absolute heliographic longitude: 323

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Notice: The 27-day Outlook, Satellite Environment, X-ray and Proton plots have been redesigned. Comments and suggestions are welcome SWPC.Webmaster@noaa.gov

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